



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/823,509

03/29/2001

Dennis Sunga Fernandez

84022.0137

8530

20322 7590 05/07/2009

SNELL & WILMER L.L.P. (Main)

400 EAST VAN BUREN

ONE ARIZONA CENTER

PHOENIX, AZ 85004-2202

EXAMINER

VO, TUNG T

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

05/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/823,509	Applicant(s) FERNANDEZ ET AL.	
	Examiner Tung Vo	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/03/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-33 and 39-50 is/are pending in the application.
- 4a) Of the above claim(s) 1-23 and 34-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-33 and 39-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 24-26, 28-32, 39-40, and 42-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Everett, Jr. et al. (US 5,202,661).

Re claims 24 and 31, Everett discloses a system (figures 1, 2, 4, and 6) comprising:

a communicator (16 and 20 of fig. 1, see also 16 and 20c of fig. 2) configured to receive first data associated with an object (note the fixed sensor system, 12 of fig. 1, detects the presence

Art Unit: 2621

of an intruder that is considered as the first data associated with an object; col. 6, lines 24-40; col. 22, lines 35-50; col. 28, lines 50-64) and second data associated with the object (note the mobile sensor, 19 of fig. 2, detects the presence of the object that is considered as second data associated with the object; col. 13, lines 5-14; col. 14, lines 1-14, 20-29; 14, line 55-col. 15, line 7), wherein the first data is received from a fixed detector configured to detect the first data (12 of fig. 2, the fixed sensor system), and wherein the second data is received from a mobile target unit (18 of fig. 1, the mobile robot, fig. 6) comprising a sensor (19 of fig. 1, the mobile sensor system, see figure 4 for more details) configured to detect the second data; and

a processor (14 of figs. 1 and 2) configured to correlate the first data and the second data to generate object location information (col. 2, lines 44-64, col. 3, lines 35-42, 49-56; col. 24, lines 39-col. 25, line 4; col. 28, lines 50-65, note Cross correlation between the fixed sensor system, 12 of fig. 2, and the mobile sensor system, 19 of figs. 1 and 4, to determine an intruder at position (X, Y) as object location information; wherein the (X,Y) position of the intruder depicted in a floor plan map, col. 29, lines 5-9) .

Re claim 25, Everett further discloses wherein the mobile target unit (18 of fig. 1, the mobile robot) comprises a locator unit (402 of fig. 4, note the local processor, 402 of fig. 4, passes required position and sonar information to the host computer, col. 7, lines 63-col. 8, lines 25) configured to determine a target unit location (Note the local processor receives X-Y position and heading from processor, 417 of fig. 4, of propulsion module, 416 of fig. 4, which is considered as a determined a target location), the communicator (16, 20a, and 20c of fig. 2) being further configured to receive the target unit location (note the local processor, 402 of fig. 4, passes required positional and sonar information to the host computer, 14 of fig. 1), the

processor (14 of fig. 1) being further configured to determine whether the mobile target unit is within a range of the fixed detector (*fig. 14, A-B indicates the mobile robot will be travel, so the mobile robot is within the range of the fixed sensor system; col. 3, lines 9-24*).

Re claim 26, Everett further discloses wherein the object location information comprises at least one of object trajectory information (*col. 2, lines 34-39, the intruder's report is considered as object trajectory information*) or object speed information (*note the robot's mean forward velocity is adjusted as a function of range to the intruder, which means the mobile robot enables to determine the object speed information so that the mobile robot to follow the intruder, col. 29, lines 15-23*); and the fixed detector provides an image of the object (12g1 of fig. 2, the video camera captures an image of the intruder).

Re claim 28, Everett further discloses a database (*Data stored in the history file is considered as database, col. 23, lines 40-55, col. 23, line 65-col. 24, line 18*) configured to maintain a plurality of current positions associated with at least one of a plurality of sensors, a plurality of mobile target units, or a plurality of objects.

Re claim 29, Everett further discloses wherein the mobile target unit comprises an accelerometer (*417 of fig. 4, note velocity control and acceleration/deceleration ramping are performed by processor, 417*) configured to provide data indicative of movement of the object to facilitate generating the object location information.

Re claim 30, Everett further discloses wherein: the object is an identified good (*Note the area under surveillance by the fixed and mobile sensors is considered as an identified good, col. 21, line 64-col. 22, line 2*); the mobile target unit (*18 of fig. 2, the mobile robot*) comprises a radio-frequency identification device (*20b1 and 20b2 of fig. 2*); and the fixed detector (*12 of fig.*

Art Unit: 2621

2) comprises a camera (12g1 of fig. 2) for observing the identified good (*the area under surveillance*), to facilitate thereby enabling the sensor (19 of fig. 4) and the fixed detector (12 of fig. 2) to provide corroborative surveillance of the identified good (*col. 22, lines 35-50, see also col. 29, lines 1-9*).

Re claim 39, Everett further discloses wherein the mobile target unit (18 of fig. 1, *the mobile robot*) comprises a locator unit (402 of fig. 4) coupled to determine a target unit location (*col. 8, lines 8-25*), the second data comprising the target unit location (*col. 8, lines 8-25*).

Re claim 40, Everett further discloses wherein the correlating the first data and the second data comprises determining compliance with a scheduled object activity (function of time, *col. 13, lines 1-13*).

Re claim 42, Everett further discloses a plurality of detectors (12g1 of figs. 2 and 4) each having a corresponding observation range (*12g1 of fig. 1, note the video camera, 12g1 of fig. 2, has a corresponding to observation range*), wherein at least one of the plurality of detectors is selected to observe the object (*12g1 of fig. 4, the video camera, 12g1, follows the intruder*), the fixed detector (12g1 of fig. 2, *col. 29, lines 1-9*) being selected in response to the processor's correlation of the first data and the second data (*col. 28, lines 58-64*).

Re claim 43, Everett further discloses wherein the first data comprises at least one of an image of the object (*12g1 of fig. 2, the video camera captures image of the intruder*) or an identifier associated with the object.

Re claim 44, Everett further discloses wherein the first data comprises a plurality of images of the object captured at different times (*Note video signal from the video camera, 12g1 of fig. 2, have images of the object at different times*).

Re claim 45, Everett further discloses wherein the second data comprises at least one of an image of the object (*e.g. 19h of fig. 6, the video camera captures image of the intruder*) or an identifier associated with the object.

Re claim 46, Everett further discloses wherein the second data comprises a plurality of images of the object captured at different times (*note the video camera, 19h of fig. 6, inherently captures images of the intruder at different times*).

Re claim 47, Everett further discloses wherein the object location information is determined at least in part based on a fixed detector location (*e.g. 12 of fig. 2*).

Re claim 48, Everett further discloses wherein the object location information is determined at least in part based on a mobile target unit location (*18 of fig. 2*).

Re claims 32 and 49 , Everett further discloses a movement module (*col. 28, line 55-57, note the threat level is sufficient for the software(the software is performed by the computer is considered as a movement module) to activate secondary sensors, and the ultrasonic motion detection system, 19f of fig. 4, is enabled*) configured to activate a second fixed detector (*note the secondary sensors are activated*) in response to the object location information (*Note thread level includes the object location information*), wherein the fixed detector (*e.g. 12e of fig. 2*) is further from the second fixed detector (*e.g. 19e of fig. 4*) than from a third fixed detector (*12d of fig. 2*).

3. Claims 24-33 and 39-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Moengen (US 6,373,508).

Re claims 24 and 31, Moengen discloses a system (figs. 1 and 2) comprising:

Art Unit: 2621

a communicator (M, BL, and Q of fig. 2) configured to receive first data (*e.g. D1 and K1 of fig. 1, note transponders are also preferably provided both in the position detectors and the cameras, col. 12, lines 25-31*) associated with an object (*a natural object N, col. 3, lines 37-42*) and second data associated with the object (*mobile cameras are used, col. 12, lines 27-31; and col. 15, lines 10-38*), wherein the first data is received from a fixed detector (*D1 and K1 of fig. 1; see D1 of fig. 2*) configured to detect the first data (*note the position and image of the natural object is considered as the first data, e.g. figs. 3a-d*), and wherein the second data is received from a mobile target unit (*note the mobile camera is used; col. 12, lines 27-31; and col. 16, lines 10-38*) comprising a sensor (*a GPS is equipped with the mobile camera, col. 16, lines 11-20*) configured to detect the second data (*the position of natural object is determined by other means, col. 16, lines 12-20, the GSP is wirelessly connected to the position module M in figure 2*); and,

a processor (Q and P of fig. 1) configured to correlate (1 and 2 of fig. 2) the first data (*the position of the natural object N is detected by the detector and camera, D1 and K1 of fig. 1*) and the second data (*the position of the natural object N is detected by the GPS, which is in a field of view of a camera as the mobile unit, col. 16, lines 11-20*) to generate object location information (*e.g. figs. 9a, b, c, note the system for manipulating (4 of fig. 2) the picture of at least one movable, natural object in a natural television picture in such a manner that the object's position and movement are clearly visible in the television picture, col. 4, lines 51-63; wherein synthetic object represent position of the natural object any t time, which indicates the future position of the natural object*).

Re claims 25 and 39, Moengen further discloses wherein the mobile target unit (*note the mobile camera, col. 16, lines 18-20*) comprises a locator unit (*the GPS is also equipped to the*

Art Unit: 2621

mobile, col. 16, lines 10-17) configured to determine a target unit location (a position of the mobile camera is determined by the GPS, col. 16, lines 11-17), the communicator (Q of figs. 1 and 2) being further configured to receive the target unit location, the processor (Q and P of fig. 1, the processing units 1-2 of fig. 2) being further configured to determine whether the mobile target unit (the mobile camera can be determined by the GPS) is within a range of the fixed detector (the mobile camera with the GPS within the field of view of a camera, e.g. K1, K2, or K3 of fig. 1; col. 16, lines 12-14).

Re claim 26, Moengen further discloses the object location information comprises at least one of object trajectory information (fig. 9c, S(p0), S(p1), S(p2) and S(p3)), or object speed information (col. 9, lines 3-8); and the fixed detector provides an image of the object (e.g. K1 of fig. 1).

Re claim 27, Moengen further discloses the object is a vehicle (a natural object inherently a vehicle used in the car race event); and the mobile target unit (*e.g. mobile camera include GPS, col. 16, lines 11-20, the GPS is equipped with the natural object*) is mounted or carried on and/or in the vehicle.

Re claim 28, Moengen further comprising a database (*Note pre-stored code sequences as position and image of the natural object is considered as database, col. 11, lines 30-35*) configured to maintain a plurality of current positions associated with at least one of a plurality of sensors (e.g D1 and D2 of fig. 1), a plurality of mobile target units (e.g. mobile cameras, col. 12, lines 28-31), or a plurality of objects (natural objects: N1 and N2).

Re claim 29, Moengen further discloses wherein the mobile target unit comprises an accelerometer (*T of fig. 2, note the active transponder also has to be mounted in the natural*

Art Unit: 2621

object, it has to be robust and capable of withstanding jolts and shocks as well as relative high accelerations) configured to provide data indicative of movement of the object to facilitate generating the object location information (col. 10, lines 10-14).

Re claim 30, Moengen further discloses the object is an identified good (*Note the natural object N is broadly interpreted as an identified good such as foot ball, hand ball, tennis ball, golf ball, and ice hockey pucks*); the mobile target unit (*the mobile camera, col. 15, lines 65-col. 16, lines 4*) comprises a radio-frequency identification device (*e.g. a wireless connection is inherently as a radio-frequency identification device, col. 16, lines 3-20*); and the fixed detector (D1 of fig. 1) comprises a camera (K1 of fig. 1) for observing the identified good (e.g. the natural object N is within the field of view of the camera K1 of fig. 1), to facilitate thereby enabling the sensor (*e.g. GPS sensor is equipped into the mobile camera, col. 16, lines 12-20*) and the fixed detector (*note the mobile camera wirelessly communicates with the processing unit Q via data buses B, col. 16, lines 1-3*) to provide corroborative surveillance of the identified good (e.g. Q and P of fig. 1, see figs. 9a-c).

Re claim 32, Moengen discloses activating a second fixed detector (D2 and K2 of fig. 1) in response to the object location information (e.g. TK and D2 of fig. 1, processed by the processing unit, 1 and 2 of fig. 2).

Re claim 33, Moengen further discloses wherein the second data comprises an object identifier (*Note the synthetic object S can be represented with various attributes for size, shape and color, which is considered as an object identifier, col. 7, lines 37-47*), the method further comprising registering the object identifier (e.g. various attributes for size, shape and color of

synthetic object S is pre-stored) in a database (e.g. Q and P of fig. 1) to indicate association with the object (figs. 9a-c).

Re claim 40, Moengen further discloses wherein the correlating the first data and the second data comprises determining compliance with a scheduled object activity (e.g. figs. 3a-4d, x, y, z, t).

Re claim 41, Moengen further discloses wherein the correlating the first data and the second data comprises determining a movement vector (col. 4, lines 26-49) to predict a future location of the object (not the speed, direction and the position of the natural object is shown on display, e.g. P of fig. 1, indicating the future location of the object).

Re claim 42, Moengen further discloses further comprising a plurality of detectors (TK, D1, K1; TK, D2, K2; and TK, D3, K3 of fig. 1, plurality cameras) each having a corresponding observation range, wherein at least one of the plurality of detectors is selected to observe the object (*note a preselected x,y,z co-ordinate system at the time t, which means one of the camera is selected, K2 of fig. 1, see fig. 3b*), the fixed detector being selected in response to the processor's correlation of the first data and the second data (*e.g. 3 of fig. 2, camera control system based on the correlating performed by the processor, Q, 1, 2, and 4 of fig. 2*).

Re claim 43, Moengen further discloses wherein the first data comprises at least one of an image of the object (e.g. IK2 of fig. 3A) or an identifier associated with the object (D1 of fig. 1).

Re claim 44, Moengen further discloses wherein the first data comprises a plurality of images of the object captured at different times (IK2 of fig. 3A and I'K2 of fig. 3c).

Re claim 45, Moengen further discloses wherein the second data (e.g. K3 of fig. 1 as the mobile camera) comprises at least one of an image of the object (e.g. IK3 of fig. 4a) or an identifier associated with the object (D3 of fig.1, and GPS is equipped with the mobile camera).

Re claim 46, Moengen further discloses wherein the second data comprises a plurality of images of the object captured at different times (figs. 4a and 4c).

Re claim 47, Moengen further discloses wherein the object location information is determined at least in part based on a fixed detector location (VZ2, and V'Z2 of figs. 3a and 3c).

Re claim 48, Moengen further discloses wherein the object location information is determined at least in part based on a mobile target unit location (GPS system determines the location of the natural object).

Re claim 49, Moengen further discloses a movement module configured to activate a second fixed detector (e.g. TK, D2, K2 of fig. 1) in response to the object location information (1 and 2 of fig. 2), wherein the fixed detector is further from the second fixed detector than from a third fixed detector (TK, D3, K3 of fig. 1).

Re claim 50, Moengen further discloses wherein the correlating the first data and the second data to generate the object location information comprises determining at least one of a trajectory or a speed of the object (col. 9, lines 3-7; col. 14, lines 33-36).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2621

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 24, 27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard (US 5,119,102) in view of Akiyoshi et al. (US 5,617,100).

Re claims 24, 27, and 31, Barnard teaches a system (fig. 3) comprising: a communicator (36 and 38 of fig. 3) configured to receive first data associated with an object (e.g. 38 of fig. 3, receiving data from the satellites, 11-14 of fig. 3, an object, 15 of fig. 3) and second data associated with the object (36 of fig. 3, second data is transmitted to the RX 36), wherein the first data is received from a detector configured to detect the first data (e.g. 12-14 of fig. 3, the satellite detects the position of the vehicle then transmitted to the receiver RX, 38 of fig. 3), and wherein the second data is received from a mobile target unit *(15 of fig. 1, note a vehicle location system for use in a global positioning system (GPS), comprising at least one vehicle mounted equipment including means for receiving signals directly from the GPS)* comprising a sensor (RX, 16 of fig. 3) configured to detect the second data; and

a processor (37 of fig. 3) configured to correlate the first data and the second data to generate object location information *(Note the control and calculating apparatus (37) within the base station can determine the ephemeris (course) information for the satellites and can measure the transmission times or propagation delays of signals between the satellites and the vehicle and with this information the control and calculating apparatus can calculate the position of the vehicle unit); the object is a vehicle (15 of fig.3); and the mobile target unit (GPS receiver system, e.g. 16 of fig. 3) is mounted or carried on and/or in the vehicle (Note the vehicle mounted equipment (GPS receiver system) including means for receiving signals directly from the GPS).*

It is noted that Barnard does not particularly teaches the detector is a fixed detector as claimed.

However, Akiyoshi teaches the fixed detector (50 of fig. 1, note The communication satellite 50 is a stationary satellite, an orbital satellite or the like)receives the positional error information with the added area information and transmits the positional error information with the added area information to every place.

Taking the teachings of Barnard and Akiyoshi as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Akiyoshi into the system of Barnard to accurately determine the position location of the object as vehicle.

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Everett, Jr. et al. (US 5,202,661) in view of Hyuga (US 5,818,733).

Re claim 27, Everett teaches the mobile robot that comprises detectors include video camera (figs. 4 and 6), wherein the mobile robot is a vehicle (fig. 6). It is noted that Everett does not particularly teach the object is a vehicle; and the mobile target unit is mounted or carried on and/or in the vehicle as claimed.

Hyuga teaches the object is a vehicle (e.g. 29 of fig. 4, a golf cart); and the mobile target unit (1 of fig. 2, the mobile unit can be hold by the golf player, fig. 4, and carried on the golf cart, 29 of fig. 2) is mounted or carried on and/or in the vehicle.

Taking the teachings of Everett and Hyuga together as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Hyuga into the system of Everett to improve monitoring object.

7. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Everett, Jr. et al. (US 5,202,661) in view of Kitamura et al. (5,554,983).

Re claim 41, Everett does not particularly disclose wherein the correlating the first data and the second data comprise determining a movement vector to predict a future location of the object as claimed.

Kitamura teaches wherein the correlating the first data and the second data (fig. 6) comprise determining a movement vector to predict a future location of the object (fig. 8).

Taking the teachings of Everett and Kitamura as a whole, it would have been obvious to one to modify the teachings of Kitamura to reduce the processing time and accurately predict the object's position.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gross et al. (US 6,218,961) discloses method and system for proximity detection and location determination.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/

Primary Examiner, Art Unit 2621